

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the actuator comprising:

a mounting bracket;

a brake actuator lever mounted for movement relative to the mounting bracket in brake applying and brake releasing directions;

a cam-and-drum member mounted for rotation relative to said brake actuator lever, said cam-and-drum member being formed from a single sheet metal member as an integral and continuous one-piece part including a protruding drum portion and a cam portion integral and continuous with the drum portion, the cam portion having a flange portion deformed into a general U-shape with integral side walls continuous as one-piece with the cam portion to provide ~~providing at least one side of~~ a groove defining a cable guide for receiving the brake cable and enabling winding thereof onto the cam portion; and

a clutch releasably coupling said cam-and-drum member to said brake actuator lever such that said cam-and-drum member rotates relative to said mounting bracket with movement of said brake actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam portion and applying tension to the cable for activating the brake system, said clutch being operable to release said cam-and-drum member from the lever such that said cam-and-drum member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position;

a spring connected to the cam-and-drum member, said spring biasing said cam-and-drum member in a slack take-up direction corresponding to the brake applying direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam-and-drum member from the lever.

2. (Original) A brake actuator according to claim 1, wherein the brake actuator lever is pivotally mounted for pivotal movement relative to the mounting bracket.

3. (Previously Presented) A brake actuator according to claim 2, wherein said clutch comprises a clutch spring embracing an exterior surface of the drum portion to releasably couple said cam-and-drum member to said brake actuator lever; and

a clutch spring release positioned to engage said clutch spring so as to expand said clutch spring to release said cam-and-drum member from the lever at least when said lever is in the brake released position.

4. (Previously Presented) An actuator according to claim 3, wherein said cam-and-drum member is a stamped part.

5. (Cancelled).

6. (Cancelled).

7. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the brake actuator comprising:

a mounting bracket;

a brake actuator lever mounted for movement relative to the mounting bracket in brake applying and brake releasing directions; and

a sheet metal cam member on the brake actuator lever, the sheet metal cam member having a flange portion deformed to define a generally U-shaped groove with opposing side walls for receiving the brake cable and enabling winding thereof onto the cam member by movement of the lever in a brake applying direction relative to the mounting bracket, thereby applying tension to the cable for activating the brake system;

wherein the opposing side walls of the generally U-shaped groove are integral and continuous as one-piece with the cam member.

8. (Original) A brake actuator according to claim 7, wherein the brake actuator lever is pivotally mounted for pivotal movement relative to the mounting bracket.

9. (Original) An actuator according to claim 8, wherein the cam member is fixed with respect to the brake actuator lever.

10. (Previously Presented) An actuator according to claim 9, wherein the sheet metal cam member is formed separately from the brake actuator lever and is fixedly attached thereto.

11. (Previously Presented) An actuator according to claim 9, wherein the sheet metal cam member is formed from a wall of the brake lever and is integral as one piece therewith.

12. (Original) An actuator according to claim 8, wherein the cam member is mounted for rotation relative to said brake actuator lever, the actuator further comprising:

a clutch releasably coupling said cam member to said brake actuator lever such that said cam member rotates relative to the mounting bracket with pivotal movement of said actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam member and applying tension to the cable for activating the brake system, the clutch being operable to release the cam member from the lever such that the cam member is able to rotate relative to the brake lever at least when the lever is in a brake released position; and

a spring connected to the cam member, the spring biasing the cam member in a slack take-up direction relative to the lever to wind the cable thereon for taking up cable slack when the clutch releases the cam member from the lever.

13. (Original) An actuator according to claim 12, further comprising:

a spring embraceable structure provided on the cam member for rotation therewith relative to the brake actuator lever, the spring embraceable structure providing an exterior surface;

said clutch comprising a clutch spring embracing the exterior surface of the spring embraceable structure to releasably couple said spring embraceable structure and said cam member to said brake actuator lever such that said spring embraceable structure and said cam member rotate relative to said mounting bracket with movement of said brake actuator lever at least in the brake applying direction; and

a clutch spring release positioned to engage said clutch spring so as to expand said clutch spring at least when said lever is in the brake released position to release said spring embraceable structure and said cam member from the lever such that said spring

embraceable structure and said cam member are able to rotate relative to said brake actuator lever.

14. (Original) An actuator according to claim 13, wherein said spring embraceable structure is a drum fixed to said cam member.

15. (Previously Presented) An actuator according to claim 14, wherein said drum is integral and continuous as one-piece with said cam member.

16. (Original) An actuator according to claim 8, wherein said cam member is a stamped part.

17. (Currently Amended) A method for forming a brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the method comprising:

providing a brake actuator lever;

providing a cam member, including deforming a sheet metal flange portion that is part of and integral and continuous with the cam member into a general U-shape so as to define a cable guide with opposing side walls for receiving the brake cable and enabling winding thereof onto the cam member, wherein the opposing side walls are integral and continuous as one-piece with the cam member;

providing a mounting bracket; and

pivotaly mounting the brake actuator lever and the cam member for pivotal movement relative to the mounting bracket in brake applying and releasing directions, the cam member being provided on the brake lever such that the movement of the brake lever in the brake applying direction winds the cable onto the cam member for applying tension to the cable for activating the brake system.

18. (Original) A method according to claim 17, wherein said mounting the brake actuator lever and the cam member comprises pivotaly mounting the actuator lever for pivotal movement relative to the mounting bracket.

19. (Original) A method according to claim 18, wherein the cam member is formed separately from the brake actuator lever, and wherein said providing the cam member

comprises: forming a piece of sheet metal to initially form a cam member having the flange; and then deforming the flange into the general U-shape so as to define the cable guide.

20. (Original) A method according to claim 19, wherein said mounting the brake lever and the cam member comprises rotatably mounting said cam member for rotation relative to said brake actuator lever; and

wherein said method further comprises:

providing a clutch releasably coupling said cam member to said brake actuator lever such that said cam member rotates relative to said mounting bracket with movement of said brake actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam member and applying tension to the cable for activating the brake system, said clutch being operable to release said cam member from the lever such that said cam member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position; and

connecting a spring to the cam member, said spring biasing said cam member in a slack take-up direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam member from the lever.

21. (Original) A method according to claim 20, wherein forming the piece of sheet metal to initially form a cam member includes stamping the piece of sheet metal.

22. (Original) A method according to claim 21, wherein deforming said flange into a general U-shape includes stamping the flange such that said flange extends at an angle from the cam member and then subsequently stamping a free end of said flange to form the flange into the general U-shape.

23. (Currently Amended) A method for forming a brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the method comprising:

forming a single piece of sheet metal to initially form a cam-and-drum member as an integral and continuous one-piece part including a protruding drum portion and a cam portion integral and continuous with the drum portion, the cam portion having a flange portion integral and continuous with the cam portion;

deforming the flange portion into a general U-shape so as to define a cable guide for receiving the brake cable and enabling winding thereof onto the cam portion, wherein the opposing side walls are integral and continuous as one-piece with the cam-and-drum member;

providing a mounting bracket;

mounting a brake actuator lever for movement relative to the mounting bracket in brake applying and releasing directions;

rotatably mounting said cam-and-drum member for rotation relative to the brake actuator lever;

providing a clutch releasably coupling the cam-and-drum member to the brake actuator lever such that the cam-and-drum member rotates relative to the mounting bracket with movement of the brake actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam portion and applying tension to the cable for activating the brake system, the clutch being operable to release the cam-and-drum member from the lever such that the cam-and-drum member is able to rotate relative to the brake actuator lever at least when the lever is in a brake released position; and

connecting a spring to the cam-and-drum member, the spring biasing the cam-and-drum member in a slack take-up direction relative to the lever to wind the cable thereon for taking up cable slack when the clutch releases the cam-and-drum member from the lever.

24. (Original) A method according to claim 23, wherein said mounting the brake actuator lever comprises pivotally mounting the actuator lever for pivotal movement relative to the mounting bracket.

25. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the actuator comprising:

a mounting bracket;

a brake actuator lever mounted for pivotal movement relative to the mounting bracket in brake applying and brake releasing directions;

a cam-and-drum member mounted for rotation relative to said brake actuator lever, said cam-and-drum member being formed from a single sheet metal member as one an integral and continuous one-piece part including a protruding drum portion and a cam portion integral and continuous with the drum portion, the cam portion having a flange portion deformed into a general U-shape with integral side walls continuous as one-piece with the

cam portion to provide ~~providing~~ a groove defining a cable guide for receiving the brake cable and enabling winding thereof onto the cam portion, wherein said cam-and-drum member is a stamped part; and

a clutch releasably coupling said cam-and-drum member to said brake actuator lever such that said cam-and-drum member rotates with pivotal movement of said brake actuator lever relative to said mounting bracket at least in the brake applying direction relative to said mounting bracket, thereby winding the brake cable onto the cam portion and applying tension to the cable for activating the brake system, said clutch being operable to release said cam-and-drum member from the lever such that said cam-and-drum member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position;

a spring connected to the cam-and-drum member, said spring biasing said cam-and-drum member in a slack take-up direction corresponding to the brake applying direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam-and-drum member from the lever.

26. (Previously Presented) A brake actuator according to claim 25, wherein said clutch comprises a clutch spring embracing an exterior surface of the drum portion to releasably couple said cam-and-drum member to said brake actuator lever;

a clutch spring release positioned to engage and said clutch spring so as to expand said clutch spring to release said cam-and-drum member from the lever at least when said lever is in a brake released position.

27. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the actuator comprising:

a mounting bracket;

a brake actuator lever mounted for pivotal movement relative to the mounting bracket;

a cam member mounted for rotation relative to said brake actuator lever, ~~the cam member providing a groove defining a cable guide for receiving the brake cable and enabling winding thereof onto the cam member,~~ said cam member being formed from a single sheet metal member as an integral and continuous one-piece part and having a flange portion deformed into a general U-shape with integral side walls continuous as one-piece with the cam portion to provide a groove defining a cable guide for receiving the brake cable

and enabling winding thereof onto the cam member, wherein said cam member is a stamped part;

a clutch releasably coupling said cam member to said brake actuator lever such that said cam member rotates with pivotal movement of said brake actuator lever relative to said mounting bracket at least in a brake applying direction relative to said mounting bracket, thereby winding the brake cable onto the cam member and applying tension to the cable for activating the brake system, said clutch being operable to release said cam member from the lever such that said cam member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position; and

a spring connected to the cam member, said spring biasing said cam member in a slack take-up direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam member from the lever.

28. (Previously Presented) An actuator according to claim 27, further comprising:

a spring embraceable structure fixed on the cam member for rotation therewith relative to the brake actuator lever, said spring embraceable structure providing an exterior surface;

said clutch comprising a clutch spring embracing the exterior surface of the spring embraceable structure to releasably couple said spring embraceable structure and said cam member to said brake actuator lever such that said spring embraceable structure and said cam member rotate with pivotal movement of said brake actuator lever relative to said mounting bracket at least in a brake applying direction relative to said mounting bracket; and

a clutch spring release positioned to engage said clutch spring so as to expand said clutch spring to release said spring embraceable structure and said cam member from the lever such that said spring embraceable structure and said cam member are able to rotate relative to said brake actuator lever at least when said lever is in a brake released position.

29. (Previously Presented) An actuator according to claim 27, wherein said spring embraceable structure is a drum fixed to said cam member.

30. (Previously Presented) An actuator according to claim 29, wherein said drum is integral as one-piece with said cam member.

31. (Currently Amended) A method for forming a brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the method comprising:

stamping a piece of sheet metal to initially form a cam member having an integral and continuous flange;

forming said flange into a general U-shape with opposing side walls integral and continuous as one-piece so as to define a cable guide for receiving the brake cable and enabling winding thereof onto the cam member, wherein the opposing side walls are integral and continuous as one-piece with the cam member;

providing a mounting bracket;

pivotally mounting a brake actuator lever for pivotal movement relative to the mounting bracket;

rotatably mounting said cam member mounted for rotation relative to said brake actuator lever;

providing a clutch releasably coupling said cam member to said brake actuator lever such that said cam member rotates with pivotal movement of said brake actuator lever relative to said mounting bracket at least in a brake applying direction relative to said mounting bracket, thereby winding the brake cable onto the cam member and applying tension to the cable for activating the brake system, said clutch being operable to release said cam member from the lever such that said cam member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position; and

connecting a spring to the cam member, said spring biasing said cam member in a slack take-up direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam member from the lever.

32. (Previously Presented) A method according to claim 31, wherein forming said flange into a general U-shape includes stamping the flange such that said flange extends at an angle from the cam member and then subsequently stamping a free end of said flange to form the flange into the general U-shape.

33. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the actuator comprising:

a mounting bracket;

a brake actuator lever mounted for movement relative to the mounting bracket in brake applying and brake releasing directions;

a cam-and-drum member mounted for rotation relative to said brake actuator lever, said cam-and-drum member being formed from a single sheet metal member as one an integral and continuous one-piece part including a protruding drum portion and a cam portion integral with the drum portion, the cam portion having a flange portion deformed into a general U-shape with integral side walls continuous as one-piece with the cam portion to provide ~~providing at least one side of~~ a groove defining a cable guide for receiving the brake cable and enabling winding thereof onto the cam portion; and

a clutch releasably coupling said cam-and-drum member to said brake actuator lever such that said cam-and-drum member rotates relative to said mounting bracket with movement of said brake actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam portion and applying tension to the cable for activating the brake system, said clutch being operable to release said cam-and-drum member from the lever such that said cam-and-drum member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position;

a spring connected to the cam-and-drum member, said spring biasing said cam-and-drum member in a slack take-up direction corresponding to the brake applying direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam-and-drum member from the lever;

wherein the brake actuator lever is pivotally mounted for pivotal movement relative to the mounting bracket;

wherein said clutch comprises a clutch spring embracing an exterior surface of the drum portion to releasably couple said cam-and-drum member to said brake actuator lever;

a clutch spring release positioned to engage said clutch spring so as to expand said clutch spring to release said cam-and-drum member from the lever at least when said lever is in the brake released position;

wherein said cam-and-drum member is a stamped part.

34. (Currently Amended) A brake actuator for applying tension to a brake cable connected to the brake system of a motor vehicle, the actuator comprising:

a mounting bracket;

a brake actuator lever mounted for movement relative to the mounting bracket in brake applying and brake releasing directions;

a cam-and-drum member mounted for rotation relative to said brake actuator lever, said cam-and-drum member being formed from a sheet metal member as one an integral and continuous one-piece part including a protruding drum portion and a cam portion integral with the drum portion, the cam portion having a flange portion deformed into a general U-shape with integral side walls continuous as one-piece with the cam portion to provide ~~providing at least one side of~~ a groove defining a cable guide for receiving the brake cable and enabling winding thereof onto the cam portion; and

a clutch releasably coupling said cam-and-drum member to said brake actuator lever such that said cam-and-drum member rotates relative to said mounting bracket with movement of said brake actuator lever at least in the brake applying direction, thereby winding the brake cable onto the cam portion and applying tension to the cable for activating the brake system, said clutch being operable to release said cam-and-drum member from the lever such that said cam-and-drum member is able to rotate relative to said brake actuator lever at least when said lever is in a brake released position;

a spring connected to the cam-and-drum member, said spring biasing said cam-and-drum member in a slack take-up direction corresponding to the brake applying direction relative to said lever to wind the cable thereon for taking up cable slack when said clutch releases said cam-and-drum member from the lever;

wherein said cam-and-drum member is a stamped part.